

FIG. 1 (Prior Art)

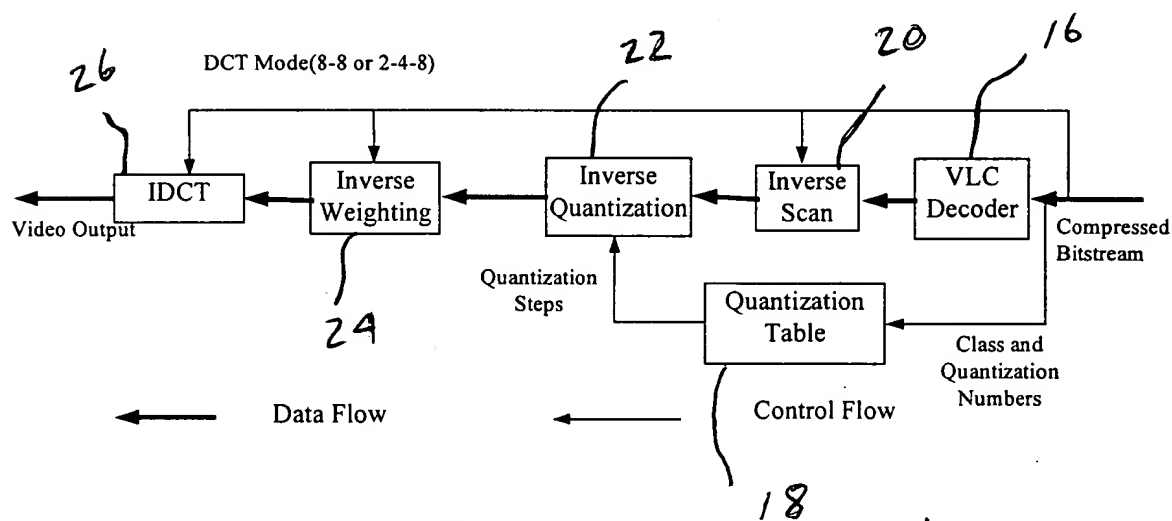
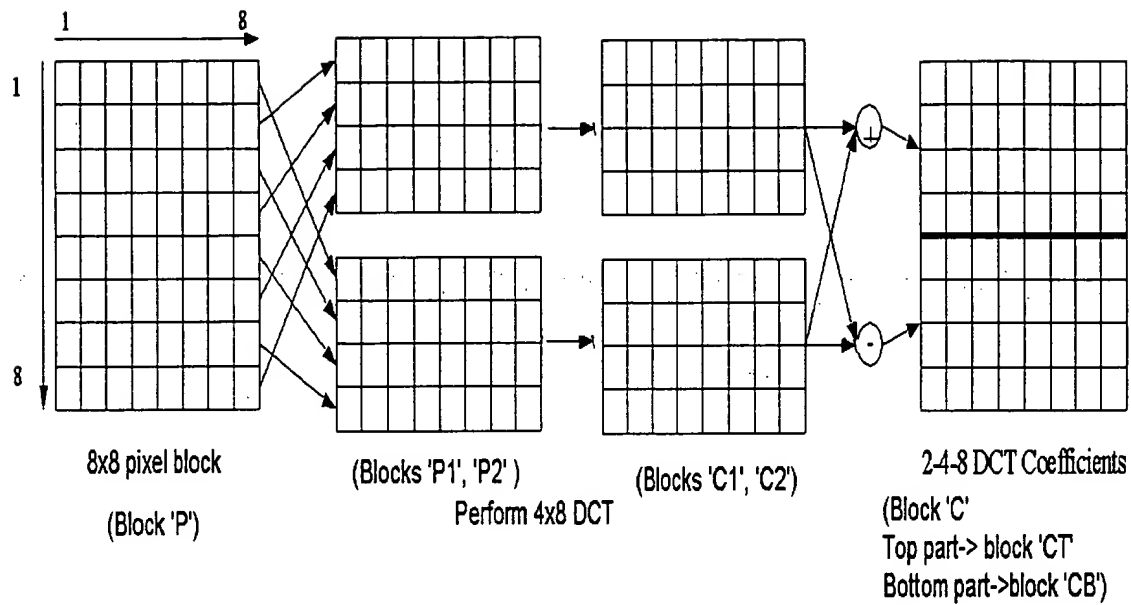


FIG. 1A (Prior Art)

0907504 403300



**FIG. 2**

8-8 DCT

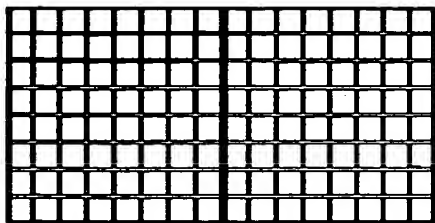
DC	0	0	1	1	1	2	2
0	0	1	1	1	2	2	2
0	1	1	1	2	2	2	3
1	1	1	2	2	2	3	3
1	1	2	2	2	3	3	3
1	2	2	2	3	3	3	3
2	2	2	3	3	3	3	3
2	2	3	3	3	3	3	3

2-4-8 DCT

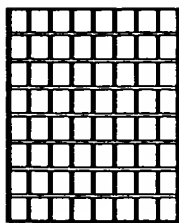
DC	0	1	1	1	2	2	3
0	1	1	2	2	2	3	3
1	1	2	2	2	3	3	3
1	2	2	2	3	3	3	3
0	0	1	1	2	2	2	3
0	1	1	2	2	2	3	3
1	1	2	2	2	3	3	3
1	2	2	3	3	3	3	3

Fig. 3

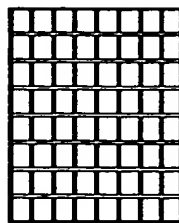
05677904 4000000



Y DCT Blocks



Cr DCT Block



Cb DCT Block

Fig. 4

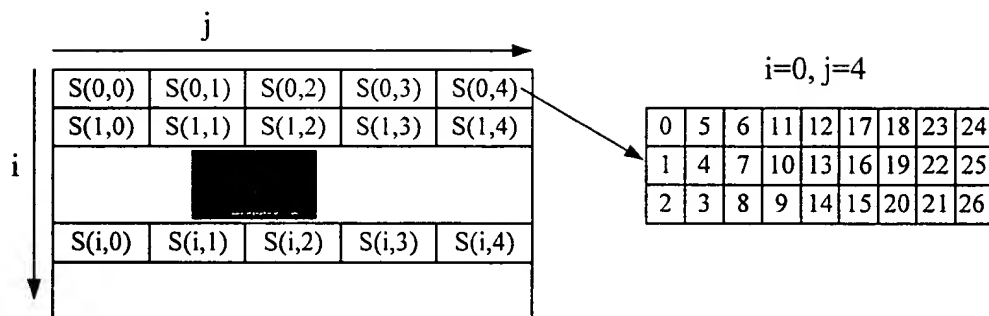
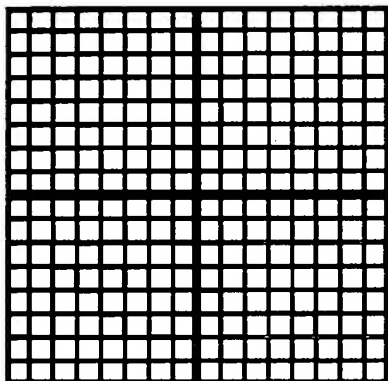
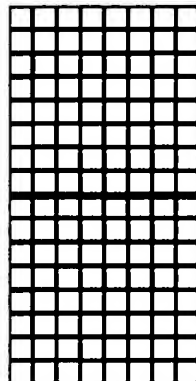


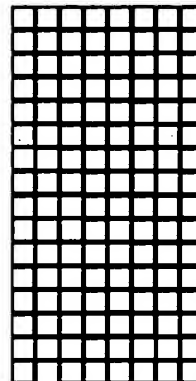
Fig. 4A



4 8x8 Y blocks



2 8x8 Cb blocks



2 8x8 Cr blocks

**Fig. 5**

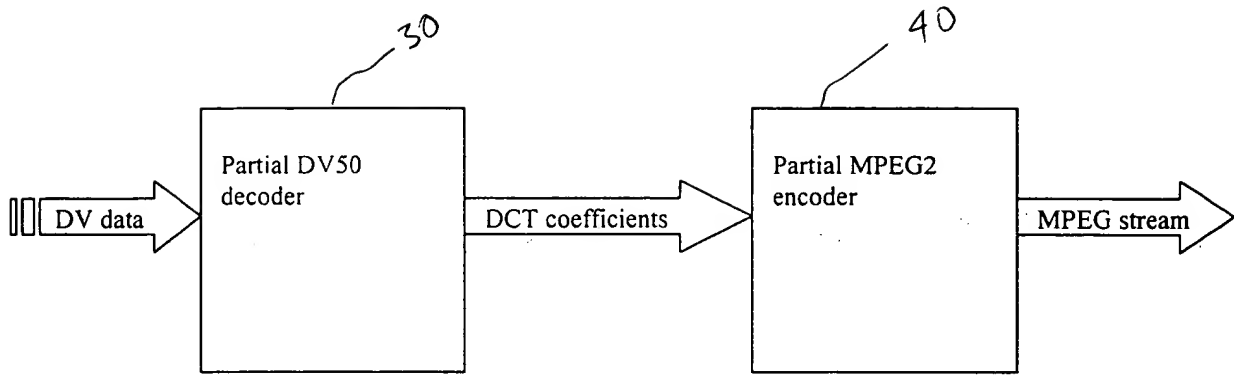


Fig. 6

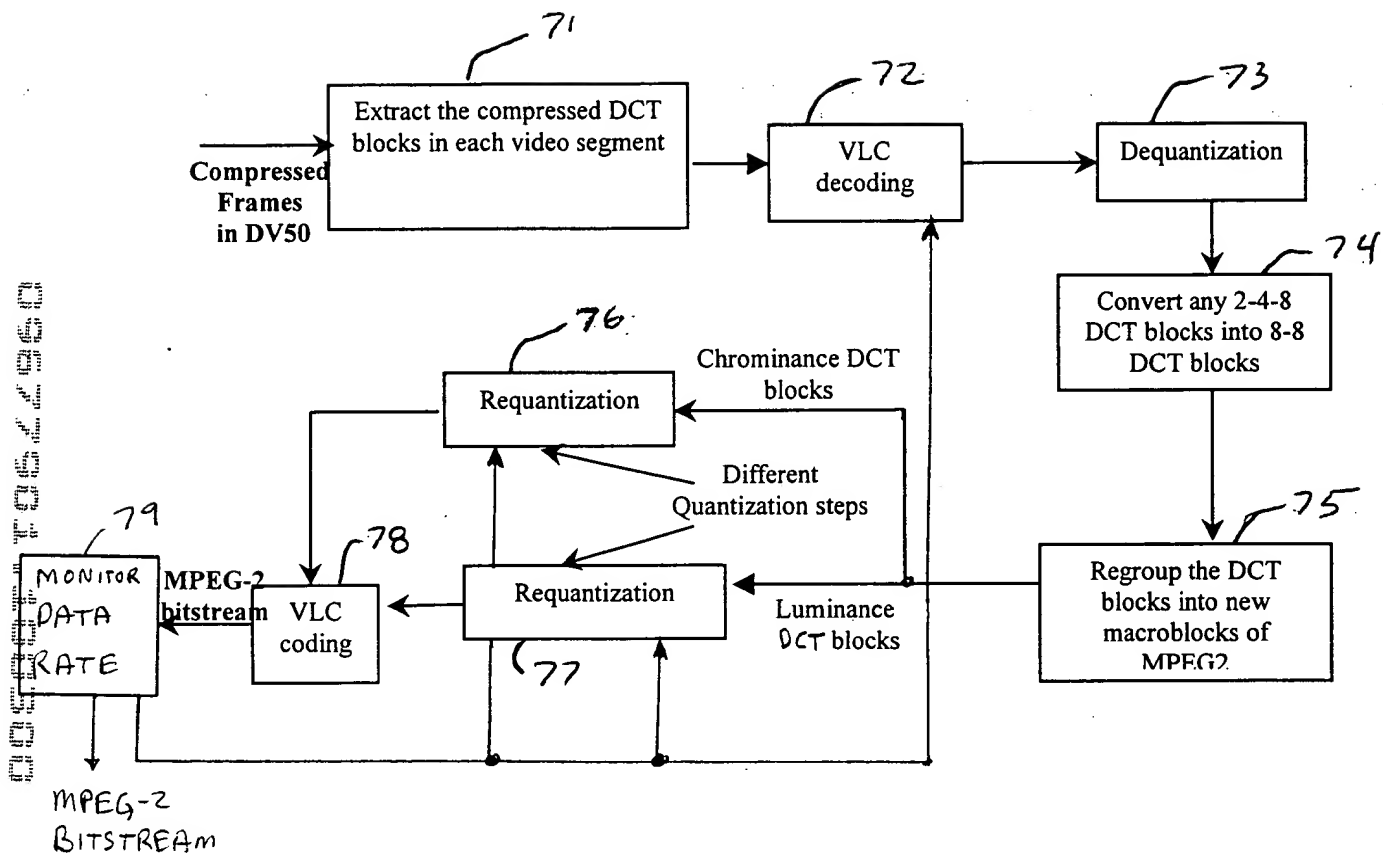


FIG 7

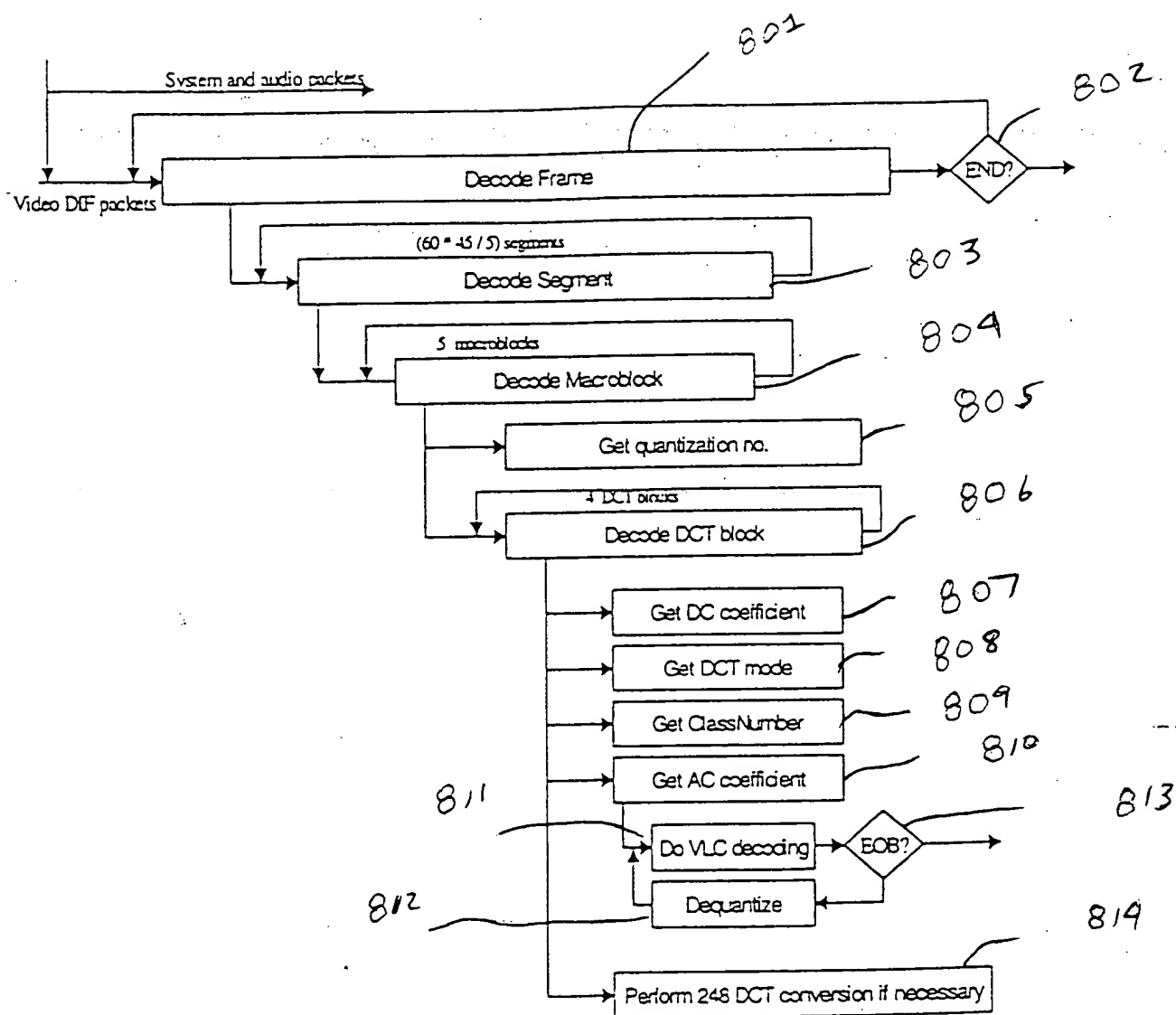


FIG. 8



```
graph TD
    Start(( )) --> 901[Generate MPEG sequence header]
    Start --> 902[Encode Frame]
    901 --> 902
    902 --> 903{END?}
    903 --> End(( ))
    902 --> 904[Rearrange DCT blocks to form MPEG macroblocks]
    902 --> 905[Encode frame coding modes]
    902 --> 906[Encode macroblock]
    906 --> 907[Encode macroblock modes]
    906 --> 908[Encode quantization scale]
    906 --> 909[Encode DCT block]
    909 --> 910[Encode DC coefficients]
    909 --> 911[Do Quantization]
    909 --> 912[Encode AC coefficients]
    912 --> 913[Do VLC lookup]
    913 --> 914{EOB?}
    914 --> End
```

The flowchart illustrates the MPEG-1 video encoding process. It begins with a start point that branches into two parallel tasks: 'Generate MPEG sequence header' (labeled 901) and 'Encode Frame' (labeled 902). The 'Generate MPEG sequence header' task completes and then feeds into the 'Encode Frame' task. The 'Encode Frame' task leads to a decision diamond labeled 'END?'. If the process is not finished, the flow proceeds to a series of sequential steps: 'Rearrange DCT blocks to form MPEG macroblocks' (904), 'Encode frame coding modes' (905), and 'Encode macroblock' (906). From 'Encode macroblock', the process branches into four parallel tasks: 'Encode macroblock modes' (907), 'Encode quantization scale' (908), and 'Encode DCT block' (909). The 'Encode DCT block' task further branches into three parallel tasks: 'Encode DC coefficients' (910), 'Do Quantization' (911), and 'Encode AC coefficients' (912). The 'Encode AC coefficients' task leads to 'Do VLC lookup' (913), which then leads to a decision diamond labeled 'EOB?'. If the process is not finished, it loops back to the 'Encode macroblock' task. If the process is finished, it proceeds to the final end point.

FIG. 9

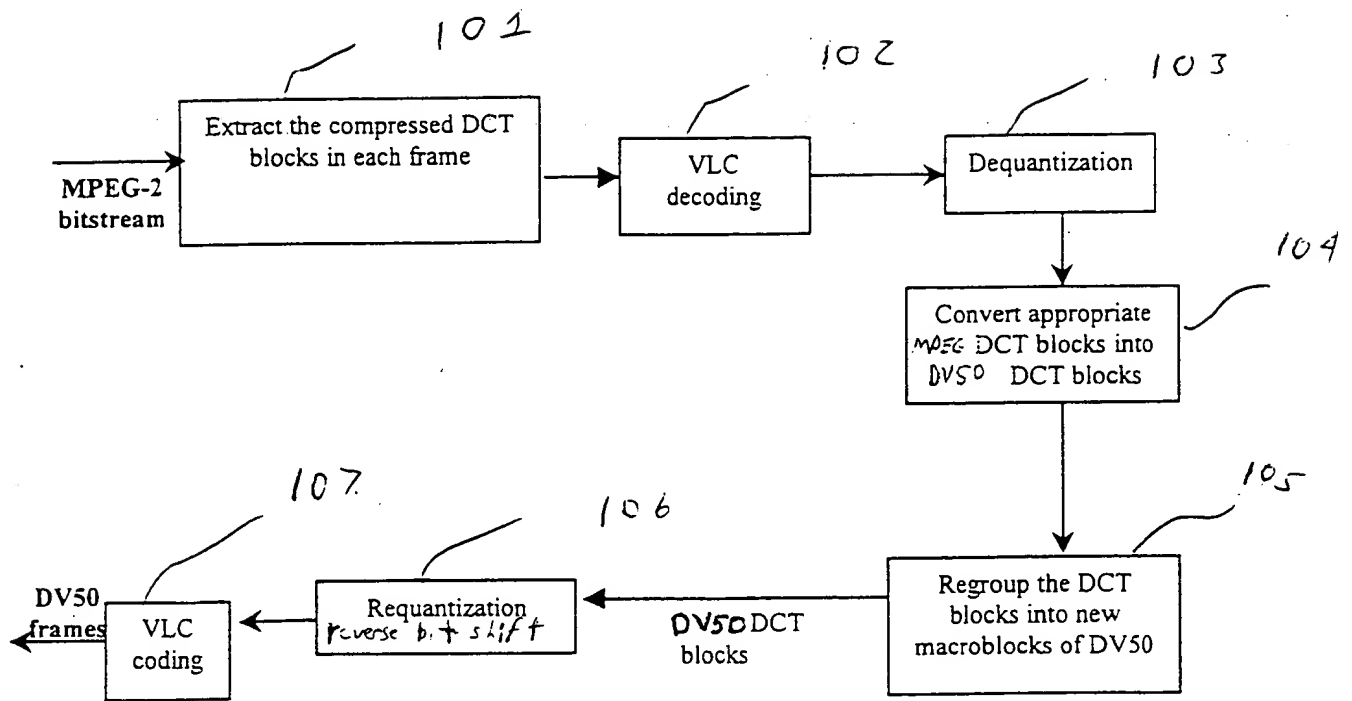


Fig. 10